

## REPORT ON BOILERS.

No. 6383

Received at London Office

MAY 30 1938

Date of writing Report 27th April 1938. When handed in at Local Office

19

Port of YOKOHAMA

No. in Survey held at TOKYO

Date, First Survey 4-10-37

Last Survey 18th Feb 1938

Reg. Book.

(Number of Visits 12)

Gross 723

Net

on the 50 TON NON PROPELLED FLOATING CRANE

Tons

CRANE PARTS TOKYO

ISHIKAWAJIMA S.B. &amp; ENG. CO. LTD 445

Master PONTON Built at TSURUMI

By whom built TSURUMI SEITETSU K

Yard No.

When built 1938

Engines made at TOKYO

By whom made ISHIKAWAJIMA S.B. &amp; ENG. CO. LTD Engine No. 445 When made 1938

Boilers made at TOKYO

By whom made ISHIKAWAJIMA S.B. &amp; ENG. CO. LTD Boiler No. 445 When made 1938

Nominal Horse Power

Owners UNION of SOVIET SOCIALIST REPUBLICS Port belonging to VLADIVOSTOK

MULTITUBULAR BOILERS—MAIN, ~~AUXILIARY~~, OR ~~DONKEY~~.

Manufacturers of Steel Tsurumi Seitetsu Zosen Kaisha

(Letter for Record S)

Total Heating Surface of Boilers 60 M<sup>2</sup>

Is forced draught fitted No

Coal or Oil fired Coal

No. and Description of Boilers One cylindrical marine type

Working Pressure 8 kgs/cm<sup>2</sup>Tested by hydraulic pressure to 15.5 kgs/cm<sup>2</sup> Date of test 4/12/37 No. of Certificate 65

Can each boiler be worked separately

Area of Firegrate in each Boiler 2.16 M<sup>2</sup>

No. and Description of safety valves to each boiler Two spring loaded

Area of each set of valves per boiler 4038 M<sup>2</sup>Pressure to which they are adjusted 8 kgs/cm<sup>2</sup>

Are they fitted with easing gear Yes.

In case of donkey boilers, state whether steam from main boilers can enter the donkey boiler

Smallest distance between boilers or uptakes and bunkers or woodwork

Is oil fuel carried in the double bottom under boilers No

Smallest distance between shell of boiler and tank top plating

Is the bottom of the boiler insulated Yes.

Largest internal dia. of boilers 2440 mm

Length 3050 mm

Shell plates: Material Steel

Tensile strength 44-50 kgs/cm<sup>2</sup>

Thickness 16 mm

Are the shell plates welded or flanged

Description of riveting: circ. seams

long. seams D.R. D.B.S.

Diameter of rivet holes in

circ. seams 23 mm

long. seams 23 mm

Pitch of rivets

75 mm

Percentage of strength of circ. end seams

plate 69.3%

rivets 51.8%

Percentage of strength of circ. intermediate seam

plate 69.3%

rivets 51.8%

Percentage of strength of longitudinal joint

plate 77%

rivets 73%

Working pressure of shell by Rules 9.87 kgs/cm<sup>2</sup>

Thickness of butt straps

outer 11 mm

inner 14 mm

No. and Description of Furnaces in each Boiler One Deighton Type

Material Steel

Tensile strength 41-47 kgs/cm<sup>2</sup>

Smallest outside diameter 1092 mm

Length of plain part

Thickness of plates

crown 12 mm

bottom

Description of longitudinal joint Weld.

Dimensions of stiffening rings on furnace or c.c. bottom

Working pressure of furnace by Rules 11 kgs/cm<sup>2</sup>

End plates in steam space: Material Steel

Tensile strength 41-47 kgs/cm<sup>2</sup>

Thickness 22 mm

Pitch of stays 440 x 270 mm

How are stays secured Nuts inside &amp; outside

Working pressure by Rules 11.6 kgs/cm<sup>2</sup>

Tube plates: Material

front Steel

back Steel

Tensile strength 41-47 kgs/cm<sup>2</sup>

Thickness

18 mm

Mean pitch of stay tubes in nests 200 mm

Pitch across wide water spaces 200 mm

Working pressure

front 11.7 kgs/cm<sup>2</sup>back 11.7 kgs/cm<sup>2</sup>

Girders to combustion chamber tops: Material Steel

Tensile strength 41-47 kgs/cm<sup>2</sup>

Depth and thickness of girder

at centre 2C 160 x 12 mm

Length as per Rule 508 mm

Distance apart 220 mm

No. and pitch of stays

in each 2C 175 mm

Working pressure by Rules 13.7 kgs/cm<sup>2</sup>

Combustion chamber plates: Material Steel

Tensile strength 41-47 kgs/cm<sup>2</sup>

Thickness: Sides 14 mm

Back 14 mm

Top 14 mm

Bottom 16 mm

Pitch of stays to ditto: Sides 175 x 211 mm

Back 230 x 205 mm

Top 230 x 175 mm

Are stays fitted with nuts or riveted over Yes.

Working pressure by Rules 9.9 kgs/cm<sup>2</sup>

Front plate at bottom: Material Steel

Tensile strength 41-47 kgs/cm<sup>2</sup>

Thickness 18 mm

Lower back plate: Material Steel

Tensile strength 41-47 kgs/cm<sup>2</sup>

Thickness 14 mm

Pitch of stays at wide water space 230 x 205 mm

Are stays fitted with nuts or riveted over Yes.

Working Pressure 9.9 kgs/cm<sup>2</sup>

Main stays: Material Steel

Tensile strength 44-50 kgs/cm<sup>2</sup>

Diameter

At body of stay, or over threads 60 mm

No. of threads per inch 10

Area supported by each stay 118,800 mm<sup>2</sup>Working pressure by Rules 13.8 kgs/cm<sup>2</sup>

Screw stays: Material Steel

Tensile strength 41-47 kgs/cm<sup>2</sup>

Diameter

At turned off part, or over threads 1 3/8"

No. of threads per inch 9

Area supported by each stay 47,150 mm<sup>2</sup>

Working pressure by Rules  $9.8 \text{ kg/cm}^2$  Are the stays drilled at the outer ends no Margin stays: Diameter  $\begin{cases} \text{At turned off part,} \\ \text{or} \\ \text{Over threads} \end{cases} 1\frac{5}{8} \text{ " } \vee 1\frac{1}{2} \text{ "}$

No. of threads per inch 9 Area supported by each stay  $39.975 \text{ m/m}^2$  Working pressure by Rules  $14.1 \text{ kg/cm}^2$

Tubes: Material Steel External diameter  $\begin{cases} \text{Plain} \\ \text{Stay} \end{cases} 3 \text{ "}$  Thickness  $\begin{cases} 10 \text{ LSG} \\ 5/16 \text{ "} \end{cases}$  No. of threads per inch 10

Pitch of tubes  $105 \times 105 \text{ m/m}$  Working pressure by Rules  $10 \text{ kg/cm}^2$  Manhole compensation: Size of opening shell plate  $300 \times 400 \text{ m/m}$  Section of compensating ring  $125 \times 16 \text{ m/m}$  No. of rivets and diameter of rivet holes  $44 - 23 \text{ m/m}$

Outer row rivet pitch at ends  $90 \text{ m/m}$  Depth of flange if manhole flanged  $90 \text{ m/m}$  Steam Dome: Material Steel

Tensile strength  $41-47 \text{ kg/mm}^2$  Thickness of shell  $10 \text{ m/m}$  Description of longitudinal joint D.R. Lap.

Diameter of rivet holes  $20 \text{ m/m}$  Pitch of rivets  $65 \text{ m/m}$  Percentage of strength of joint  $\begin{cases} \text{Plate} \\ \text{Rivets} \end{cases} \begin{cases} 69.2\% \\ 66\% \end{cases}$

Internal diameter  $700 \text{ m/m}$  Working pressure by Rules  $15.9 \text{ kg/cm}^2$  Thickness of crown  $10 \text{ m/m}$  No. and diameter stays ✓ Inner radius of crown  $600 \text{ m/m}$  Working pressure by Rules  $13.4 \text{ kg/cm}^2$

How connected to shell D.R. LAP. Size of doubling plate under dome  $950 \times 16 \text{ m/m}$  Diameter of rivet holes and pitch of rivets in outer row in dome connection to shell 20 C 65 m/m.

Type of Superheater \_\_\_\_\_ Manufacturers of  $\begin{cases} \text{Tubes} \\ \text{Steel castings} \end{cases}$

Number of elements \_\_\_\_\_ Material of tubes \_\_\_\_\_ Internal diameter and thickness of tubes \_\_\_\_\_

Material of headers \_\_\_\_\_ Tensile strength \_\_\_\_\_ Thickness \_\_\_\_\_ Can the superheater be shut off and the boiler be worked separately \_\_\_\_\_

Is a safety valve fitted to every part of the superheater which can be shut off from the boiler \_\_\_\_\_

Area of each safety valve \_\_\_\_\_ Are the safety valves fitted with easing gear \_\_\_\_\_ Working pressure as per Rules \_\_\_\_\_

Pressure to which the safety valves are adjusted \_\_\_\_\_ Hydraulic test pressure tubes \_\_\_\_\_, castings \_\_\_\_\_ and after assembly in place \_\_\_\_\_

Are drain cocks or valves fitted to free the superheater from water where necessary \_\_\_\_\_

Have all the requirements of Sections 14 to 22 inclusive for boilers been complied with \_\_\_\_\_

The foregoing is a correct description,

A. Murata Manufacture \_\_\_\_\_

Dates of Survey  $\begin{cases} \text{During progress of work in shops} \\ \text{while building} \end{cases} \begin{cases} \text{of} \\ \text{on} \end{cases} \begin{cases} 4, 11, 22, 28/10, 6/11, 4/12/37. \\ 30/12, 24/12/37, 25/1, 2/2, 9/2, 18/2/38 \end{cases}$

Are the approved plans of boiler and superheater forwarded herewith ✓ (If not state date of approval.) 2, 11, 14/7/37

Total No. of visits 12

Is this Boiler a duplicate of a previous case no If so, state Vessel's name and Report No. ✓

GENERAL REMARKS (State quality of workmanship, opinions as to class, &c.)

This Boiler has been built under Special Survey in accordance with the Rules and approved Plans. Materials & Workmanship good.

The Boiler has been securely fitted onboard and examined under steam, safety valves adjusted to  $8 \text{ kg/cm}^2$  and accumulation trials carried with satisfactory results.

This Boiler is eligible in my opinion to be classed in the Register Book.

Survey Fee ... £ 9 : 9 : 0 When applied for, 27-4-1938

Travelling Expenses (if any) £ : : When received, 19

J. Mitoulas.  
Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute

FRI. 3 JUN 1938

Assigned

See Yka. J.E. 6383



© 2020

Lloyd's Register Foundation